



**Network Centric Operations
Industry Consortium**

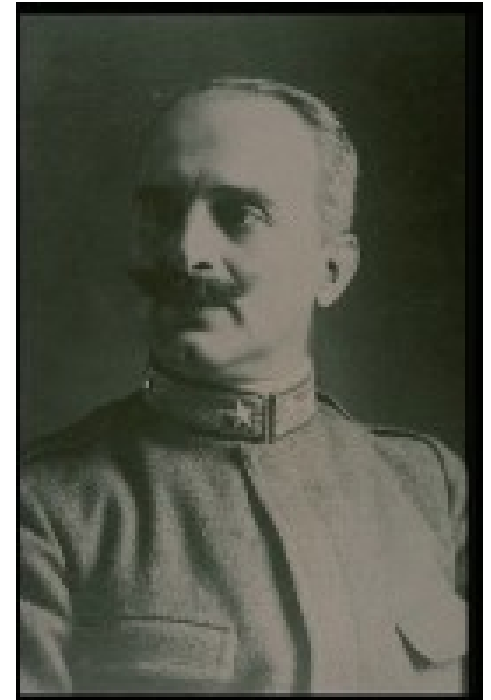
Network Centric Operations Industry Consortium Overview

**February 25,
2005**

Agenda

- Network Centric Operations Mandate
- Why the NCOIC
- NCOIC Vision and Mission
- NCOIC Membership
- NCOIC Value Proposition
- NCOIC Technical Approach
- NCOIC Operations
- Summary

“Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur.” *Giulio Douhet 1869-1930. Italian Army Air officer known as the father of strategic air power.*



DoD, DHS, NATO and MoDs Mandate *Network Centric Operations (NCO)*

- NCO is the underlying foundation of “Force Transformation” at the DoD and throughout the armed forces of our allies.
 - Force Transformation is a new strategic context
 - New Theory of War based on Information Age principles and phenomena
 - New relationship between operations abroad & homeland security dealing with a considerably broadened threat context:
 - State/Non-State
 - Nodal/Non-nodal
 - Symmetric/Asymmetric
 - Traditional/Unrestricted
- 

Mandate

Transformation Through NCO is the Goal

- Joint transformation requires an “intellectual infrastructure” that includes:
 - Enhanced training programs
 - The development of a Network Centric Environment
 - The provision of assured Interoperability
 - Path breaking concept development and experimentation
 - Effective programs to capture and implement lessons learned
 - Common and open interoperability standards

- “Knowledge is both a fundamental principle and instrumental resource in our efforts to secure our borders and people. The Department has made widespread coordination and information sharing the hallmark of our new approach to homeland security.”



Admiral Edmund Giambastiani, Jr. USN
NATO Supreme Allied Commander-
Transformation
Commander, U.S. Joint Forces Command



Tom Ridge
Secretary, Department of
Homeland Security

Why the NCOIC?

Industry Leadership to Reduce NCO Time-To-Market

- A Forum for Subject Matter Experts to Collaborate on NCO Initiatives:
 - Better Understand Customer's NCO Vision, Goals, and Objectives
 - Exchange strategies and proven approaches to enhance system delivery
- An Organization Committed to Establishing Open, Interoperable Systems using Common Best Practices and Systems Engineering Techniques:
 - Facilitates Consistency Across Industry
 - Advocates for Open and Interoperable Systems Design
- Companies Committed to Meeting the Government More Than Half-Way:
 - Understanding Industry's Responsibilities and Acting
 - Addressing the Problem, Taking Initiative, Understanding the Requirement
 - Seeking close collaboration with Government and the rest of industry.

This consortium exists to exchange ideas and produce process and technology deliverables that facilitate force transformation through NCO.

Consortium Vision

Responding to the Need

■ Vision:

Industry working together with our customers to provide a network centric environment where all classes of information systems interoperate by integrating existing and emerging open standards into a common evolving global framework that employs a common set of principles and processes.

- Primary tenets of the Consortium's vision:
 - Work to identify and develop a Network Centric environment
 - Provide assured technical interoperability
 - Embrace, enhance, and encourage open standards
 - Establish and educate on common principles and processes

Consortium Mission

- The Mission of the Consortium is to help accelerate the achievement of increased levels of interoperability within, and amongst, all levels of government of the United States and its allies involved in Joint, Interagency and Multinational (JIM) operations.
- The Consortium will achieve this mission through the creation of an international industry body, whose membership is open to all interested parties sharing a common vision of facilitating Network Centric Operations, and whose efforts are directed in support of the respective members' customers.

Introducing the Consortium

Current Member Companies

- Leading international aerospace, defense, IT systems, and professional services firms who have extensive experience with:
 - DoD
 - Intelligence Agencies
 - DHS
 - NATO
 - MoDs
 - International Law Enforcement Community
 - State/Provincial and Local Governments.
- New companies of all sizes, “think tanks” and academic institutions.
- Open:
 - Participation open to all,
 - Fair, equitable, and vendor-neutral processes,
 - Work based on relevant industry open standards and practices.

NCOIC Members - February 23, 2005

Total Members: 58

Additional Pending Members: 0

Active Inquiries: 60

Tier 1 Members (23)

- | | | |
|-----------------------------|---|--------------------|
| ▪ BAE Systems North America | ▪ Harris Corporation | ▪ Oracle |
| ▪ Boeing | ▪ Hewlett-Packard | ▪ Raytheon |
| ▪ CACI | ▪ IBM | ▪ Rockwell Collins |
| ▪ Cisco Systems | ▪ ITT Industries | ▪ Saab |
| ▪ EADS | ▪ L-3 Communications Integrated Systems | ▪ SAIC |
| ▪ EMC | ▪ Lockheed Martin | ▪ Sun Microsystems |
| ▪ Factiva | ▪ Northrop Grumman | ▪ Thales |
| ▪ General Dynamics | | ▪ Themis Computer |

Tier 2 Members (2)

- | | |
|--------------------------------|------------------------------|
| ▪ Alcatel Government Solutions | ▪ Israel Aircraft Industries |
|--------------------------------|------------------------------|

Tier 3 Members (33)

- | | | |
|------------------------------------|--|---|
| ▪ Aeroenvironment Inc | ▪ Flight Safety International | ▪ Real-Time Innovations, Inc |
| ▪ Argon ST | ▪ Honeywell | ▪ RUAG Electronics |
| ▪ Ball Solutions Group | ▪ Innerwall | ▪ Sikorsky Aircraft |
| ▪ Bay Microsystems Inc | ▪ Innovative Concepts, Inc | ▪ Smiths Aerospace |
| ▪ Camber Corporation | ▪ Johns Hopkins U. Applied Physics Lab | ▪ Software Engineering Institute/Carnegie Mellon University |
| ▪ CB Technologies | ▪ Marconi Communications Federal Inc | ▪ SPARTA, Inc |
| ▪ Ciena Government Solutions | ▪ MBL International, Ltd. | ▪ SuprTEK |
| ▪ Cryptek, Inc | ▪ McDonald Bradley, Inc | ▪ Wakelight Technologies, Inc |
| ▪ Engenio Information Technologies | ▪ Microsoft | ▪ West Virginia High Tech. Consortium Foundation |
| ▪ Ericsson | ▪ MITRE | ▪ Wind River Systems |
| ▪ Finmeccanica | ▪ Motorola | |
| | ▪ PTC | |

Consortium Value Proposition

Consortium Efforts Will...

- Increase interoperability within and among systems involved in Joint, Interagency and Multinational operations
- Lower development costs and increase commonality of design in future systems – tailored standards and best practices
- Improve force readiness through more rapid fielding of network centric systems – leverage technical “lessons learned”
- Reduce systems cost and sustainability through re-use and commonality – facilitate ease of integration, upgrade, and support
- Reduce Development Risk by Identifying the common components needed for the network centric environment – Develop them where none exist
- Improve Force Effectiveness through new, more focused development on domain specific capabilities for the Warfighter

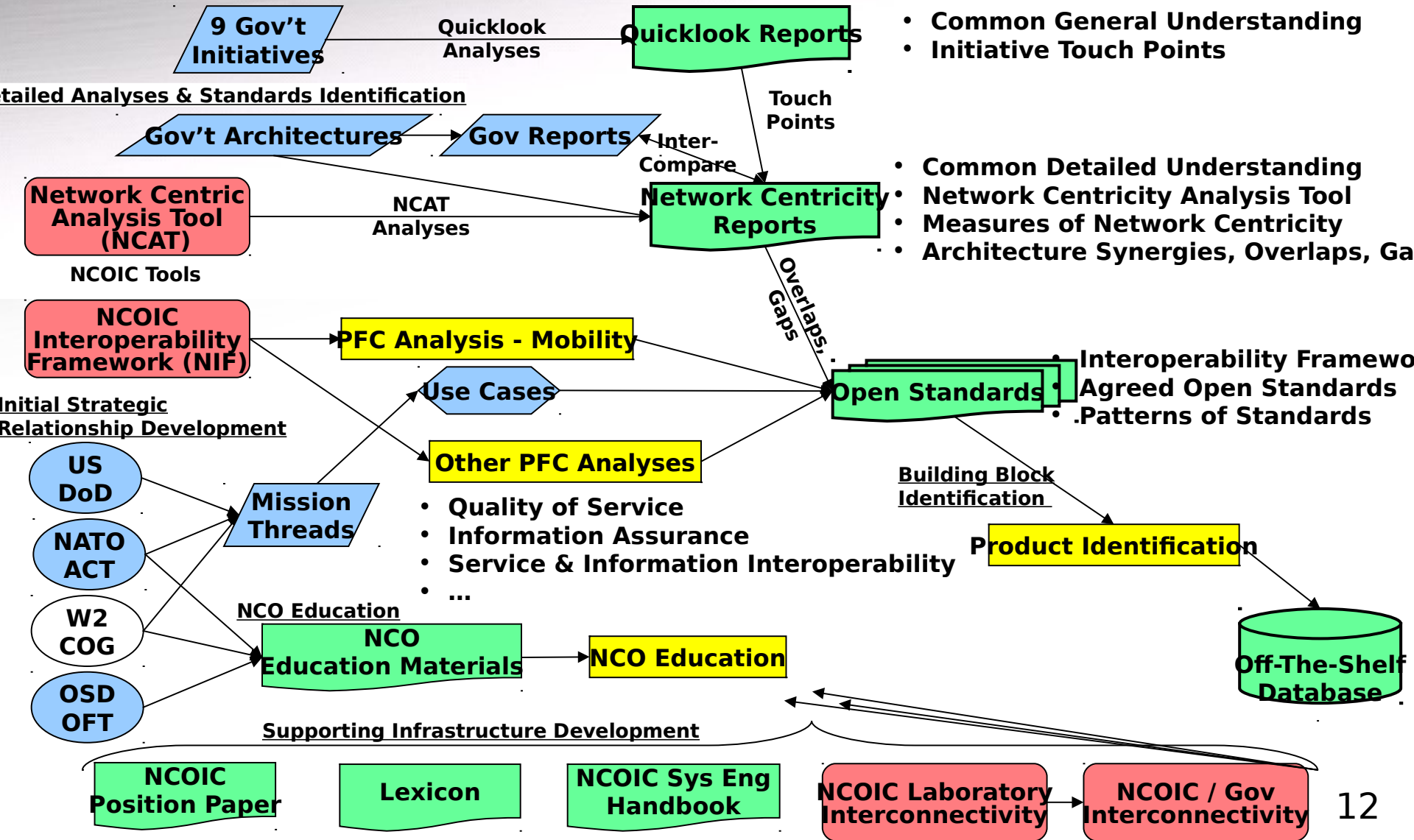
Consortium Technical Approach

5 “Parallel” Strategies - Helping our customers to:

- Complete a thorough and rigorous analysis of pertinent government agency architectures
 - Customer Requirements Team
- Develop a secure information management overarching architectural framework / reference model to identify open standards and their patterns of use
 - Architectures and Standards Analyses Team
- Identify the widest possible community of open standards-based product types
 - Building Blocks Team
- Develop a program for education for NCO
 - Education and Outreach Team
- To plan and implement strategies to develop effective collaborative engineering environments
 - Engineering Processes Team

Technical Activity Inter-relationships (draft)

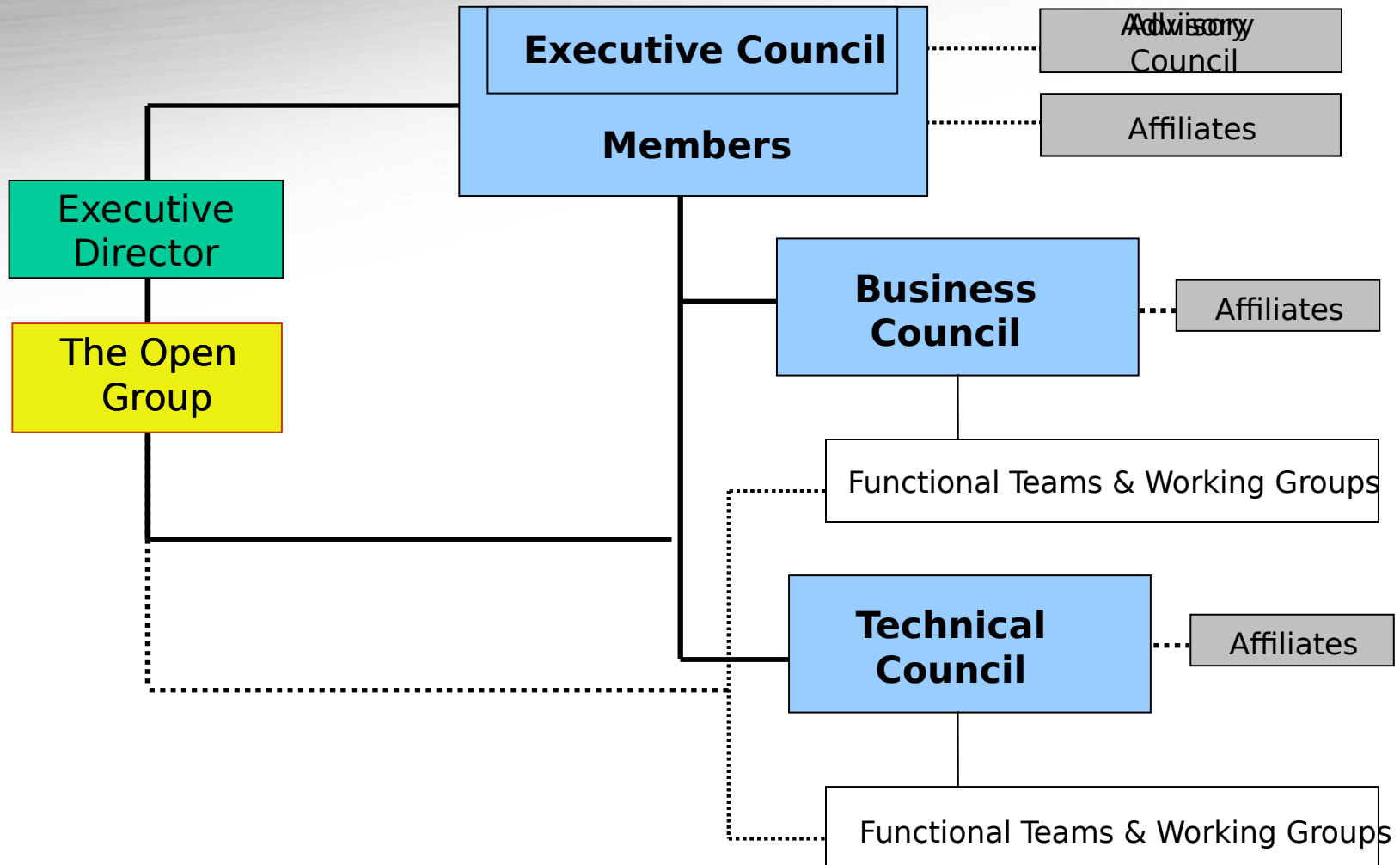
Initial Analyses



Near Term Technical Deliverables

<u>Technical Deliverable (by team)</u>		<u>1st Qrt</u>	<u>2nd Qrt</u>
■ Customer Requirements	- 9 Major Initiatives Quicklook Report		Apr '05
	- Stakeholder / Initiatives Database Structure		Jun '05
■ Architectures and Standards Analysis	- Lexicon Draft V4.1	Jan '04	
	- NCOIC Position Paper V.2.0	Feb '05	
	- NCAT Beta Development	Feb '05	
	- NCAT Released		Jun '05
	- Initial NCOW RM Analysis of US 3 DoD Initiatives		Apr '05
	- Final US DoD Tri-service Analysis		May '05
	- NCOIC Interoperability Framework (NIF) Initial Draft	Jan '05	
	- NCOIC Interoperability Framework (NIF) Released		April '05
	- Mobility Analysis Initial Draft	Mar '05	
	- Mobility Analysis Released		Jun '05
■ Building Blocks	- Database designed and ready for population	Mar '05	
■ Education	- COG / NCOIC Collaborative Roadmap	Feb '05	
■ Engineering Processes	- NCOIC System Engineering Handbook		Apr '05
	- Agreed Approach to Shared Products	Mar '05	
	- Lab Interconnectivity Capability Requirements	Mar '05	

Consortium Operations



Technical Council

Description

- **Charter:**
 - To lead, manage and coordinate the Technical resources and activities of the Consortium to accomplish the technical work products and deliverables
- **Primary Objectives:**
 - Provide technical Leadership and inter-team coordination
 - Generate the Near and Long term Technical Roadmaps
 - Ensure Teams and Working Groups are appropriate, are effectively staffed, work within their charters, and adhere to deliverable schedules
- **Near Term Actions:**
 - Update technical resource requirements
 - Update technical roadmap and schedule
 - Populate Working Groups and Teams with active members
 - Assist in new member and customer orientations and briefings as required
- **Issues:**
 - Formal NCOIC Access to US Government Documentation - in progress
 - Participation by International members in technical working groups - in progress
 - Technical Participation in Conferences / meetings - in progress

Technical Council

TECHNICAL COUNCIL

Chair: Alan Murdoch (Northrop Grumman) **Vice Chair:** Mike Curtis (IBM)

STANDING TEAMS

Customer

Chair: Steve Russell (L-3)

Vice: Rob Biddlecomb (NGC)

Exec Sponsor: TBD

Working Groups:

- Stakeholders ID Serialization
TBD ()

- Initiative ID & Analysis
TBD ()

- Mission Thread/Use Case
Analysis
TBD ()

- Automation & Analysis Tools
TBD ()

Building Blocks

Chair: Steve Haken (Sun)

Vice: James Burke (Lockheed
Martin)

Exec Sponsor: TBD

Working Groups: (To be
launched)

Web Services Category

Architectures and Standards Analysis

Chair: Bob Lawrence (BAE
Systems)

Vice: Frank Miller (Rockwell)

Exec Sponsor: TBD

Working Groups:

- Position Paper / Lexicon
Paul Mangione
(Boeing/GBA)

- Open Standards / Patterns
Mark Bowler (Boeing)
- NCOIC Interop Framework
(NIF)

- Frank Miller (Rockwell)
- NCO Analysis Tool (NCAT)
Fred Mervine (IBM)
Vish Dixit (Boeing)
- Mobile Networks
Jim Bound (HP)
Steve Kobierowski (Boeing)

Education and Outreach

Chair: John Poladian (HP)

Vice: Al Nauda (Raytheon)

Exec Sponsor: TBD

Working Groups:

- OSD/OFT
Krishna Sankar (Cisco)
- W2COG
John Poladian (HP)
- Distance Learning
TBD ()

Engineering Processes

Chair: Tim McQuinn (Raytheon)

Vice: Ken Cureton (Boeing)

Exec Sponsor: TBD

Working Groups:

- System Engineering
Processes
- Collaboration Processes
- Modeling, Simulation, &

Business Council

BUSINESS COUNCIL

Chair: K Mowrey (Boeing)

Vice Chair:

STANDING TEAMS

Customer Outreach

Chair: T. Mayhew, Oracle

Vice Chair: Joe Siniscalchi,

Market Strategies

Chair: E. Vogler, Sun

Vice Chair: K. Kondrotis,
Lockheed Martin

Consortium Infrastructure

Chair: R. Davis, SAIC

Communication

S

Chair: J. Kopec,
Rayt

Membership Outreach

Chair: P. Allen, IBM

Legal

Chair: J. Nimer, Sun

Export Compliance

Chair: G. Carney, BAE

Vice Chair: D. Burnett, EADS

Affiliates

Chair: M. Lammers,
EADS

Business Council Objectives

- Provide the right infrastructure in place to support the technical agenda
- Fulfill the NCOIC vision by maintaining a strong open and diverse membership policy and by extending the NCOIC reach internationally
- Remove barriers for international participation in the NCOIC Technical activities
- Ensure the Consortium effort is closely aligned with existing and emerging customer interoperability requirements
- Increase awareness among the international industry and customer base
- Provide guidance and interpretation on all appropriate laws and regulations in order to help ensure the Consortium abides by the highest possible ethical and legal standards

Key to Consortium Success - The Customer

Advisory Council: “Customer In” Approach

- The Advisory Council represents government agencies and allied member countries in the identification and development of open, consensus-based approaches necessary to support transformation through NCO.
- Advisory Council Chair: Dr. Paul Kaminski, former DoD Undersecretary for Acquisition and Technology.
- The Advisory Council will:
 - Advise Consortium leadership on customer NCO/NCW issues, needs, requirements and direction
 - Provide thought leadership to the Consortium in developing innovative concepts and strategic direction
 - Encourage Consortium participation of NCO/NCW thought leaders, industry, and associated organizations
 - Encourage and leverage openness of communication at all levels of the consortium



Current Composition of Advisory Council

■ **Dr. Paul G. Kaminski**

- **LTG Steven W. Boutelle, USA**
- **VADM (USN Ret) Arthur K. Cebrowski**
- **Lt Gen (USAF, Ret) James R. Clapper, Jr.**
- **Mr. Bill Dawson**
- **Dr. Vitalij Garber**
- **Ms. Priscilla E. Guthrie**
- **Lt Gen William T. Hobbins, USAF**
- **Mr. Lee Holcomb**
- **VADM James D. McArthur, Jr., USN**
- **Gen (USAF, Ret) James P. McCarthy**
- **Mr. Arthur L. Money**
- **Maj Gen (ret) Staffan Näsström**
- **Lt Gen Harry D. Raduege, Jr., USAF**
- **LtGen Robert M. Shea, USMC**
- **Maj Gen Ruud van Dam, AF Netherlands**
- **LTG Robert W. Wagner, USA**
- **Dag Willhemsen, NATO (NC3A)**
- **Georges D'hollander, NATO**

AC Chairman

Army
OFT
NGA
Intelligence Community
OUSD (A, T, &L)
OASD (NII)
Air Force
DHS
Navy
USAF
At large
Swedish DMA
DISA
JCS
ACT
JFCOM
Agent Directorate General Manager,
Director NHQC3S

Affiliates Council

- Established as the “portal” for all non-member organizations who desire to work with or affiliate with the NCOIC
 - Affiliates enhance our ability to achieve our mission by providing access and resources to the NCOIC in carrying out our objectives
- Chaired by Dave Chesebrough, President, Association for Enterprise Integration (AFEI)
- Overall program manager for individual and/or collective affiliates
- Works with the Advisory Council to devise and execute integration strategies for affiliate organizations
- Ensures NCOIC and affiliate organization tasking is commensurate with overall technical and business roadmap



Management Services - The Open Group

- Role

- Ensure that the processes, methods of operation and practices of the Consortium are, and are seen to be, neutral, open and fair

- Key tasks

- Provide the management services, infrastructure and counsel to enable the Consortium to achieve its goals
- Provide a primary point of contact for managing account relationships, on behalf of the consortium, for current, new, and potential members
- Assist in meeting arrangements and facilitation as required by the Council Chairs
- Facilitate the Consortium review and approval process
- Manage the Consortium election process

Summary

- Industry working together with our customers to achieve interoperability
- Open participation across industry
- Advisory and Affiliates Councils are key contributors
- Network Centric Operations: The Common Vision



Thank you